



# HOW HEMODIALYSIS WORKS

## HEMODIALYSIS

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Hemodialysis is a medical procedure that artificially cleans the blood. Blood is pumped from your body through your dialysis access (a needle or catheter). The blood travels through sterile tubing and then into a dialyzer (artificial kidney) where it is filtered. Clean blood returns to you back through your access.

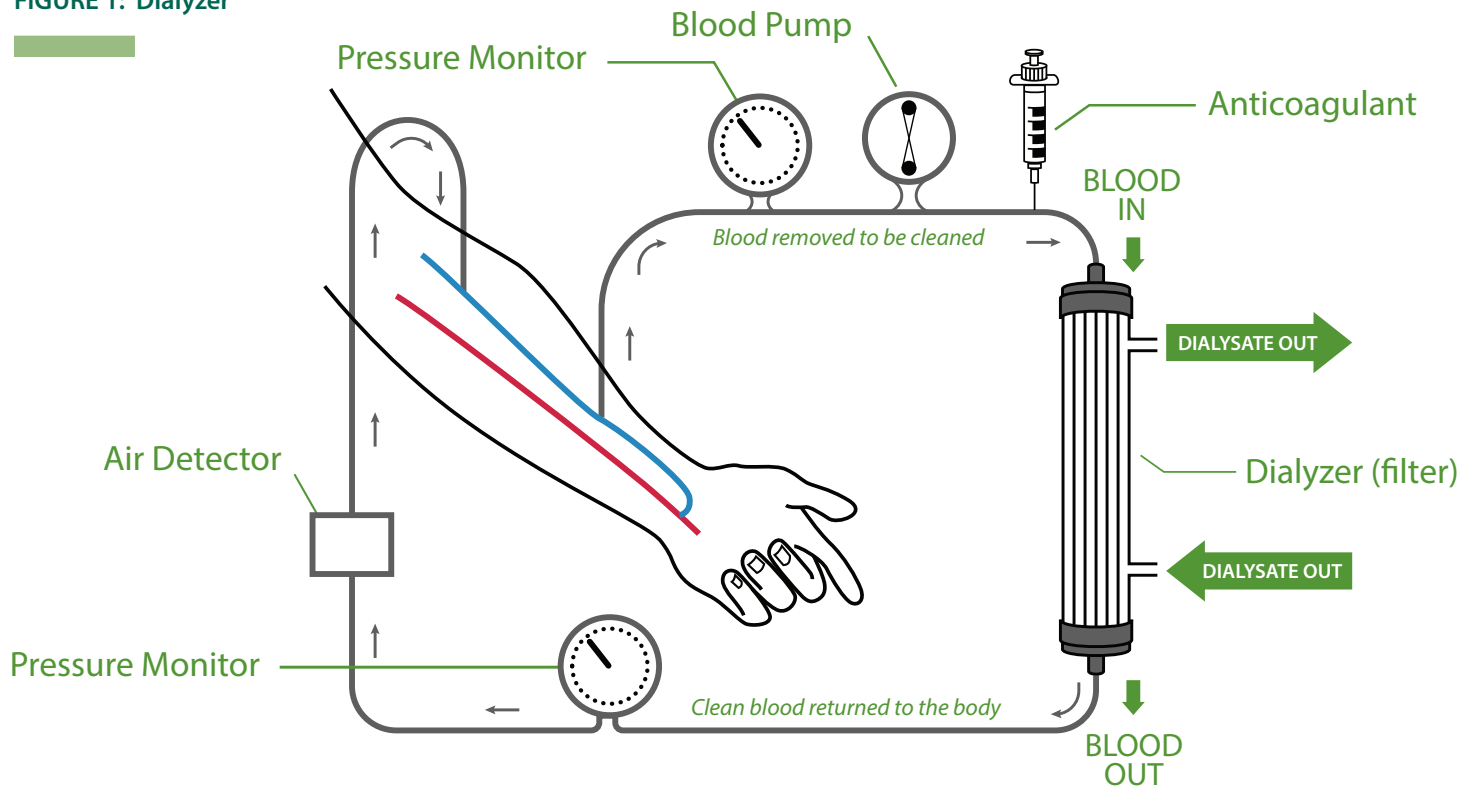
## How the Dialyzer Works

The **dialyzer** has two sections: one for blood and one for dialysate. Blood enters the blood section and flows through many tiny straw-like tubes. These tubes have many tiny holes that allow waste products, electrolytes and fluid in your blood to pass through the tubes into the dialysate section by two processes – diffusion and ultrafiltration. Red and white blood cells and proteins are large and cannot pass through the holes.

The dialysate is made up of water and concentrated electrolytes and is mixed inside the dialysis machine. The dialysate passes through the dialyzer around the outside of the tubes where it collects the wastes and fluid from the blood, exits the dialyzer and goes down the drain.

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FIGURE 1: Dialyzer



This process takes place many times throughout your treatment depending on how long you dialyze and how fast the blood is pumped through the tubing.

## What the Dialyzer Does

Dialysis helps replace many of the functions that your kidneys are no longer able to do for you:

- Removal of salt and water (helps to regulate your BP)
- Cleaning the blood by removing wastes (e.g., urea, creatinine)
- Regulating electrolytes and minerals balance (e.g., potassium, calcium)
- It also provides an opportunity to easily give medications to replace some hormones (e.g., Aranesp, Eprex)